

EXPLANATION OF PLATE XXVIII.—Fig. 1. Section through two pustules on stem of *Stellaria media*. $\times 105$.—Fig. 2. Cross section of healthy stem. $\times 105$.—Fig. 3. Cross section of receptacle and resting-spore, the latter emptied of its contents. $\times 425$.—Fig. 4. Resting-spore with outer thick coat broken and showing the endosporium. $\times 425$.—Fig. 5. Surface view of epidermis of diseased part. $\times 425$.—Fig. 6. Section through an upper internode, showing two sori in a common receptacle, one sorus emptied of sporangia. $\times 425$.—Fig. 7. A larger sorus. $\times 425$.—Fig. 8. Section through a younger pustule, showing an immature resting-spore or sorus. $\times 425$.—Fig. 9. Young resting-spore with membrane attached to one side. $\times 425$.

A peculiar malformation of an ovary and placenta on *Begonia rubra-grandiflora*.—Last spring while engaged in a series of cross fertilization experiments, I observed a very peculiar ovary and pistil in one of the flowers I had crossed. It was *Begonia rubra-grandiflora* and it had been fertilized by pollen from *Begonia Verschafeltii* with all the usual precautions against accidental fertilization from other sources. The ovary was superior instead of inferior, as it is normally. The four branches of the stigma seemed to be attached to the sides of the ovary near the base; or rather the ovary seemed to have grown up in the middle of the flower pushing the four branches of the stigma apart. The ovary also seemed to be turned wrong side out, exposing the parietal placenta on its outer surface, which was apparently covered with tiny whitish ovules. No capsule was developed below the base of the calyx, as in a normal pistillate blossom. These ovules or seeds could be seen very distinctly four or five days after fertilization, without a lens.

Unfortunately, after about ten days of growth, this peculiar ovary was accidentally broken off; but the stem was placed in water under a bell jar until the seeds became brown, and seemed ripe. Though the seeds seemed shrivelled when dry they were nevertheless planted; but none germinated.

This malformation was so curious (and so far as I could find unrecorded), that I would not trust my own observation, but showed the plant to several botanical students, and to Prof. A. S. Hitchcock, and Mr. M. A. Carleton, all of whom agreed with me that these small bodies on the outside of the ovary appeared to be seeds. Some were scraped off with a scalpel and examined under a microscope; and to all outward appearances seemed to be genuine seeds.

I have never read of a similar freak, so think this instance might be of interest to other botanists.—MINNIE REED, *Botanical Department, Kansas Agric. College, Manhattan.*